UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,635	11/13/2003	Kazuhisa Yamamoto	YAO-3750US5	2129

23122 7590 03/12/2007

RATNERPRESTIA
P O BOX 980
VALLEY FORGE, PA 19482-0980

EXAMINER	
NGUYEN, DUNG T	
ART UNIT	PAPER NUMBER
2828	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/712,635	YAMAMOTO ET AL.	
	Examiner	Art Unit	
	Dung (Michael) T. Nguyen	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *78,80,81,87,89,90,93 and 97* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *78,80,81,87,89,90,93 and 97* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 78, 80-81, 87, 89-90, 93, and 97 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The subject matter of "the single mode fiber is configured to prevent a variation in temperature of the wavelength conversion element caused by a heat generated from the semiconductor laser" is not described in the specification. Additionally, it is not clear how the fiber configuration would prevent the limitation as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 78, 80, 87, and 89 are rejected 35 U.S.C. 103(a) as being unpatentable over Asami et al. (5415978) in view of Gupta (5682398).

With respect to claims 78, 80, 87, and 89, Asami et al. show in Fig.2-6 a laser device, comprising:

three laser light sources (54R, 54G, and 54B) for generating red, green and blue laser light beams (Lr, Lg, and Lb);

a modulator (58R, 58G, and 58B) for changing an intensity of each of the laser light beams; and

a deflector (68) for changing a direction of each of the laser light beams,

wherein at least one of the three laser light sources is formed of a semiconductor laser (102) for radiating laser light and a bulk type (material mass) optical wavelength conversion element (110) having periodic domain inverted structures (column 19, lines 26-30) for generating a harmonic wave (column 6, lines 12-15).

Asami et al. lack a single mode fiber for conveying laser light from the semiconductor laser to the wavelength conversion element and wherein the single mode fiber is configured to prevent a variation in temperature of the wavelength conversion element caused by a heat generated from the semiconductor laser.

Gupta teaches in fig.1 a single mode fiber 20 for conveying laser light from the semiconductor laser to the wavelength conversion element 22 and wherein the single mode fiber is configured to prevent a variation in temperature of the wavelength conversion element caused by a heat generated from the semiconductor laser (As indicated in the instant application on page 55, l.15-19 to prevent temperature variation by remotely disposing the wavelength conversion element away from the heat generated by the semiconductor laser, Gupta teaches exactly that feature in Fig.1).

it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Asami et al. what is taught by Gupta to efficiently couple the laser light into the wavelength conversion element.

Claims 81 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asami et al. (5415978) in view of Gupta (5682398) and further in view of Nitta (5590145).

With respect to claims 81 and 90, Asami et al. and Gupta disclose all limitations of the claims 78 and 87 except for the semiconductor laser is a distributed feedback type semiconductor laser; and the laser light source further comprises a semiconductor laser amplifier for amplifying the laser light from the distributed feedback type semiconductor laser.

Nitta teaches in Fig. 1 the semiconductor laser (1) is a distributed feedback type semiconductor laser; and the laser light source further comprises a semiconductor laser amplifier (3) for amplifying the laser light from the distributed feedback type semiconductor laser (column 3, lines 26-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Asami et al. and Gupta what is taught by Nitta to employ a semiconductor laser being able to switch the output laser light between TE and TM mode (polarization plane) and a semiconductor laser amplifier for amplifying the semiconductor laser output light to minimize the optical losses (column 1, lines 56-67; column 2, lines 1-3; and column 3, lines 26-64).

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Dung

Michael Dung Nguyen

2/22/07